

WHAT IS CLAIMED IS:

1. An ion transfer component in a mass spectrometer comprising:
a body having an orifice through which ions can pass, wherein at least a portion of
the body comprises titanium metal.

5

2. The ion transfer component of claim 1, wherein:
the entire body comprises titanium metal.

10

3. The ion transfer component of claim 1, wherein:
the at least a portion of the body is coated with titanium metal.

4. The ion transfer component of claim 1, wherein:
the at least a portion of the body includes one or more surfaces of the ion transfer
component.

15

5. The ion transfer component of claim 1, wherein:
the at least a portion of the body at least partially surrounds and defines the
orifice.

20

6. The ion transfer component of claim 1, wherein:
the titanium metal comprises an alloy of titanium

25

7. The ion transfer component of claim 6, wherein:
the alloy of titanium is an alloy of titanium and one or more of the metals in the
group consisting of aluminum, vanadium, molybdenum, manganese, iron, platinum, tin,
copper, niobium, zirconium, and chromium.

8. The ion transfer component of claim 1, wherein:
the titanium metal comprises commercially pure titanium.

30

9. The ion transfer component of claim 8, wherein:

the titanium metal comprises commercial grade I, II, III, or IV titanium.

10. The ion transfer component of claim 1, wherein:
the ion transfer component comprises a lens.

5

11. The ion transfer component of claim 10, wherein:
the lens is configured such that an electrostatic potential can be applied.

12. The ion transfer component of claim 10, wherein:
the lens is configured such that an RF potential can be applied.

10

13. The ion transfer component of claim 1, wherein:
the ion transfer component comprises a skimmer.

14. The ion transfer component of claim 1, wherein:
the ion transfer component is an RF only lens.

15

15. The ion transfer component of claim 14, wherein:
the RF only lens comprises a plurality of rods.

20

16. The ion transfer component of claim 15, wherein:
a DC potential is applied to the plurality of rods.

17. An ion transfer component in a mass spectrometer comprising:
an ion guide into which ions can pass, wherein at least a portion of the ion guide
comprises titanium metal.

25

18. The ion transfer component of claim 17, wherein:
the ion guide comprises a plurality of rods.

30

19. The ion transfer component of claim 17, further comprising:

an enclosure, wherein at least part of the enclosure comprises titanium.

20. A system for analyzing ions, the system comprising:

a source of ions for generating ions; and

5 an ion transfer component according to claim 1.

21. The system of claim 20, wherein:

the ions adiabatically expand to form a supersonic free jet, and

10 at least a portion of the ion transfer component is disposed in an area of the free jet expansion.

22. The system of claim 20, wherein:

the ions adiabatically expand to form a supersonic free jet, and

15 at least a portion of the ion transfer component is disposed in a zone of silence resulting from the free jet expansion area.

23. The system of claim 20, wherein:

the ions adiabatically expand to form a supersonic free jet, and

20 at least a portion of the ion transfer component is disposed outside an area of free expansion.

24. The system of claim 20, wherein:

the source of ions comprises an orifice or aperture through which the ions emerge, and

25 at least a portion of the ion transfer component is disposed such that the orifice is disposed opposingly to the emerging ions

25. The system of claim 20, wherein:

the ions generated by the source emerge along an axis, and

30 at least a portion of the ion transfer component is disposed at an angle from the axis.